

SEQUENCE LISTING

(1) GENERAL INFORMATION:



(i) APPLICANT: Rybak, Susanna M.
Newton, Dianne L.
Goldenberg, David M.

(ii) TITLE OF INVENTION: Immunotoxins Directed Against Malignant Cells

(iii) NUMBER OF SEQUENCES: 3

(iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: Townsend and Townsend and Crew LLP
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(C) CITY: San Francisco
(D) STATE: California
(E) COUNTRY: USA
(F) ZIP: 94111-3834

(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER: US 09/071,672
(B) FILING DATE: 01-MAY-1998
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: US 60/046,895
(B) FILING DATE: 02-MAY-1997

(viii) ATTORNEY/AGENT INFORMATION:
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(C) REFERENCE/DOCKET NUMBER: 015280-32510US

(ix) TELECOMMUNICATION INFORMATION:
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(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 104 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS:
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa = Glu or pyroglutamic acid"

(ix) FEATURE:

- (A) NAME/KEY: Protein
- (B) LOCATION: 1..104
- (D) OTHER INFORMATION: /note= "RNase A derived from
Rana pipiens, "onc protein""

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Xaa	Asp	Trp	Leu	Thr	Phe	Gln	Lys	Lys	His	Ile	Thr	Asn	Thr	Arg	Asp
1							5							10	15
Val	Asp	Cys	Asp	Asn	Ile	Met	Ser	Thr	Asn	Leu	Phe	His	Cys	Lys	Asp
							20						25	30	
Lys	Asn	Thr	Phe	Ile	Tyr	Ser	Arg	Pro	Glu	Pro	Val	Lys	Ala	Ile	Cys
							35					40	45		
Lys	Gly	Ile	Ile	Ala	Ser	Lys	Asn	Val	Leu	Thr	Thr	Ser	Glu	Phe	Tyr
							50				55	60			
Leu	Ser	Asp	Cys	Asn	Val	Thr	Ser	Arg	Pro	Cys	Lys	Tyr	Lys	Leu	Lys
							65			70	75	80			
Lys	Ser	Thr	Asn	Lys	Phe	Cys	Val	Thr	Cys	Glu	Asn	Gln	Ala	Pro	Val
							85		90			95			
His	Phe	Val	Gly	Val	Gly	Ser	Cys								
							100								

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 249 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(ix) FEATURE:

- (A) NAME/KEY: -
- (B) LOCATION: 1..249
- (D) OTHER INFORMATION: /note= "nucleic acid encoding
"onc protein""

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

GATGTTGATT GTGATAATAT CATGTCAACA AACTTGTTCC ACTGCAAGGA CAAGAACACT	60
TTTATCTATT CACGTCCCTGA GCCAGTGAAG GCCATCTGTA AAGGAATTAT AGCCTCCAAA	120

AATGTGTTAA	CTACCTCTGA	GTTTATCTC	TCTGATTGCA	ATGTAACAAG	CAGGCCTTGC	180
AAGTATAAAT	TAAAGAAATC	AACTAATAAA	TTTTGTGAA	CTTGTGAAAA	TCAGGCACCA	240
GTTCATTT						249

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 83 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS:
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(ix) FEATURE:

- (A) NAME/KEY: Protein
- (B) LOCATION: 1..83
- (D) OTHER INFORMATION: /note= ""onc protein", positions 16-98
of SEQ ID NO:1"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Asp	Val	Asp	Cys	Asp	Asn	Ile	Met	Ser	Thr	Asn	Leu	Phe	His	Cys	Lys	
1															15	
Asp	Lys	Asn	Thr	Phe	Ile	Tyr	Ser	Arg	Pro	Glu	Pro	Val	Lys	Ala	Ile	
															30	
Cys	Lys	Gly	Ile	Ile	Ala	Ser	Lys	Asn	Val	Leu	Thr	Thr	Ser	Glu	Phe	
															45	
Tyr	Leu	Ser	Asp	Cys	Asn	Val	Thr	Ser	Arg	Pro	Cys	Lys	Tyr	Lys	Leu	
															50	
Lys	Lys	Ser	Thr	Asn	Lys	Phe	Cys	Val	Thr	Cys	Glu	Asn	Gln	Ala	Pro	
															60	
65															80	
Val	His	Phe														